

SIGNIFICANT COMMUNICATION SUPPORT NEEDS ACADEMY



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Academy Introduction

Using the **Significant Communication Support Needs Academy** transparency (T1), review the modules with the paraeducators before beginning the academy.

This academy provides opportunities for paraeducators to have hands on experiences with multiple high and low technology communication devices. You will need to make those devices and materials available to participants. In some cases it may be best to present this academy with the support of your district's augmentative communication support team or with a communication specialist who would have access to multiple types of equipment and material. Many high technology systems operate through use of a computer or like system and it is encouraged that you consider teaching this academy in a setting that allows access to electronically based technology.

Module A: Typical Language Development and Effective Communication focuses on familiarizing paraeducators with the theories of language and communication for typical students and examining and defining modes of intervention for those students who do not have typical language/communication development. It progresses from a philosophical presentation of information to hands-on learning opportunities.

Module C of this academy is based upon hands-on interactions, making and examining low and high technology systems. You will need to accommodate for the physical space that will be needed to do so.

Significant Communication Support Needs Academy

SgComm-T1



Module A. Typical Language Development and Effective Human Communication

- *Recognize the components of typical language development.*
- *Identify the basic components of human communication.*
- *Name the ecological components of communication.*
- *Identify adult behaviors that facilitate communication with students.*

Module B. The Relationship Between Communication and Independent Life Interactions

- *Recognize the communicative intent of human behavior.*
- *Define processing and comprehension difficulties.*
- *Describe the process of communication without speech.*
- *Identify the role of the paraeducator in facilitating student communication.*

Module C. Low- and High-Tech Augmentative Communication Systems

- *Explain the conceptual basis behind the use of augmentative communication systems.*
- *Recognize, create, and operate low- and high-tech communication systems.*

Module A: Typical Language Development and Effective Human Communication

Significant Communication Support Needs Academy

Module A: Typical Language Development and Effective Human Communication



A. Energizer: Communicating Without Speech

Have the participants break into small groups. Direct the paraeducators to introduce themselves to each other and briefly tell where they work and what they do each day without the use of speech. Take only a few minutes for this activity.



Note to Instructor: An alternate icebreaker activity may be used, provided it focuses on the subject of communication difficulties.



B. Module Goals

Using the **Module A: Typical Language Development and Effective Human Communication** handout and transparency (H1/T1), review the goals of the module.

1. Recognize the components of typical language development.
2. Identify the basic components of human communication.
3. Recognize the ecological components of communication.
4. Identify adult behaviors that facilitate communication with students.



Goal 1: Recognize the components of typical language development.



1.1 Lecture: Typical Language Development

Distribute and review the **Typical Language Development** handout (H2).

- 0 - 1 month
 - ↳ Differentiated cry.
 - ↳ Social smile.
 - ↳ Shows positive responses to adults talking to him/her.
- 1 - 4 months
 - ↳ Participates in vocal play.
 - ↳ Laughs.
 - ↳ Blends vowel sounds together.
 - ↳ Makes sounds with objects in mouth.
 - ↳ Experiments with sounds.
 - ↳ Establishes turn-taking games.
 - ↳ Anticipates events with situational cues.
- 4 - 8 months
 - ↳ Differentiates sound of toys/people.
 - ↳ Increased variety of sounds (both vowels and consonants).
 - ↳ Looks or acts to start or repeat a game.
 - ↳ Recognizes familiar people and routines.
 - ↳ Babbles.
- 8 - 12 months
 - ↳ Differentiated sounds for wants.
 - ↳ Uses simple jargon.
 - ↳ Single words (mama and dada).
 - ↳ Babbles.
 - ↳ Initiates familiar games with a variety of signals.
 - ↳ Recognizes words with situational cues.
 - ↳ Uses a “gimme reach.”
- 12 - 18 months
 - ↳ Increased single word vocabulary.
 - ↳ Names familiar objects.
 - ↳ Imitates novel sounds/words.
 - ↳ Uses objects in social exchanges.
- 18 - 24 months
 - ↳ Two-word sentences (nouns, verbs).
 - ↳ Uses elaborate jargon.

- ↳ Speech-to-speech responses.
- ↳ Rapid vocabulary increases.
- ↳ Refers to absent objects.
- 2 - 7 years
 - ↳ Average vocabulary:
 - ⇒ 3-year-olds = 900
 - ⇒ 4-year-olds = 1500
 - ⇒ 5-year-olds = 2200
 - ↳ Typical sentence length:
 - ⇒ 3-year-olds = 3-4 words
 - ⇒ 4-year-olds = 5-6 words
 - ⇒ 5-year-olds = 6+ words
 - ↳ Pronunciation:
 - ⇒ 3-year-olds mispronounces 40% of speech.
 - ⇒ 4-year-olds mispronounce 20% of speech sounds.
 - ⇒ 5-year-olds mispronounce 10% of speech sounds.
 - ↳ First words are nouns, then verbs.
 - ↳ Most articulation problems are eliminated by seven years of age.
 - ↳ Develops repetition.
 - ↳ Monologues form. Uses lengthy utterances while talking to self.
 - ↳ Collective monograph develops. Simultaneous talk between two children with no interaction.
 - ↳ Associates actions with others. Child talks to self, but is aware someone is listening.
 - ↳ Quarreling, expresses a need to be understood.
 - ↳ Primitive arguments. Disagrees and gives differing point of view.
 - ↳ Collaboration of abstract thought. Discusses a topic not shared in an activity.
 - ↳ Genuine argument. The child uses the word “because.”
- 7 - 11 years
 - ↳ Exchanges thoughts with the people around him or her.
 - ↳ Makes subjective value judgments.
 - ↳ Questions to obtain information.
 - ↳ Attempts to influence the actions of others.
 - ↳ Will learn to use 5,000 new words.
 - ↳ Will read 50,000 words.
 - ↳ Increased ability to use compound and complex sentences.

- 11+ years
 - ↳ Continued vocabulary acquisition and ability to express complex ideas and explanations in a logical sequential manner.



Goal 2: Identify the basic components of human communication.



2.1 Discussion: Why We Communicate

Human beings use language for a single purpose: to communicate. Present and review the **Communication** transparency (T2). Communication can be defined as the transmission or conveyance of information (i.e., ideas, wants, needs, etc.) from one party to another, and the ability to use language and speech to interact with a partner.

It seems obvious, but sometimes we forget how intricate and complicated the communication process is. Engage the participants in a discussion regarding why people communicate, asking for specific reasons. Encourage the participants to think of the communication needs of students, as well as their own.

Present and review the **Why We Communicate** transparency (T3), incorporating the examples provided by the participants.

- We communicate because we:
 - ↳ Have something we want to say.
 - ↳ Need something.
 - ↳ Have emotions that we want to express: anger, happiness, fear, etc.
 - ↳ Like to talk to other people.
 - ↳ Are lonely.



2.2 Discussion: How We Communicate

While all people have the same reasons for communicating, they have different ways of communicating. Engage the participants in a discussion regarding how people communicate, asking for specific examples.

Present and review the **How We Communicate** transparency (T4), incorporating the examples provided by the participants.

- We communicate through:
 - ↳ Words.
 - ↳ Body language.
 - ↳ Systems and devices, both low- and high-tech.
 - ↳ Emotions.
 - ↳ Silence.

- ↳ Sign language.
- ↳ Interpreters.



2.3 Lecture: Basic Components of Human Communication

consists of two components:

- Speech, and
- Language.

We often think of speech and language as the same thing, but they are not. Speech and language are more like two sides of the same coin, the component parts that typically make up the means for communication, each made up of several components. Present and review the **Components of Speech and Language** handout and transparency (H3/T5).

- Speech
 - ↳ A physical act, usually consisting of air, breathe, and voice.
 - ↳ The synchronized use of air, tongue, teeth, throat, lips, and muscles in the mouth and throat.
- Language
 - ↳ A cognitive action that allows an individual to:
 - ⇒ Receive information.
 - ⇒ Comprehend meaning.
 - ⇒ Recall information.
 - ⇒ Express thoughts, feelings, etc., and communicate to a partner.
 - ⇒ Apply information to previously acquired information (i.e., foreign language acquisition).
 - ⇒ Apply previously acquired understanding to new situations, to generalize meanings.



2.4 Activity: Remembering Communicative Intent

Paraeducators will participate in an activity that provides an opportunity to gain a better understanding of significant communication support needs.



Note to Instructor: This academy deals with significant communication support needs and the instructor is “setting the stage” in helping attendees begin to think about those students who have not been able to utilize or access traditional and typical means of

communication. The instructor should attempt to guide the conversations and thinking for this activity toward the less obvious means that students use to communicate: attitudes, moods, difficult behaviors, systems, smiles, emotions, eye gaze, etc.



2.4.1 Steps

- Have the participants break into small groups.
- Instruct the participants to think about students they have worked with who have not been able to communicate easily. With those students in mind, instruct the groups to list the various ways that those students have attempted to communicate.
- When finished, ask each group to share their lists with the class.
- When all groups have presented, review the belief that communication is not just a matter of one individual using words to speak to another. It is an intricate and abstract activity and paraeducators must become effective and efficient observers and interpreters of attempts to communicate in order to better assist students.



Goal 3: Recognize the ecological components of communication.



3.1 Lecture: Ecological Components

Present and review the **Ecological** transparency (T6). Ecological can be defined as an examination of the relations between living organisms and their environment.

When we say that we are going to look at the ecological components of any given thing, we mean that we are going to examine the relationships that the parts have to each other and with the environment in which they exist. The same is true when we examine the ecological components of communication. We are looking closely at what parts have to exist for communication to take place and how those parts interact. On a more concrete level, it means that for communication to exist there must be a relationship, a giver and a receiver, the most important ecological components of communication. It is obvious that without one or the other communication could not take place.



3.2 Activity: The Ecological Components of Communication

Paraeducators will participate in an activity that provides an opportunity to gain a better understanding of the importance of ecological factors in communication.



3.2.1 Steps

- Have the participants break into two groups.
- From each group, solicit one volunteer. Give the volunteers their instructions for the activity out of the hearing of the other participants.
 - ↳ Instruct the two volunteers to return to their groups and talk about something really important that has happened to them in their life (they can make up a story if they would like).
 - ↳ They should recount this information to their group using great detail.
 - ↳ They should attempt to communicate how important it is that the group give them their full attention because they have something very important to say.
 - ↳ They should try very hard to convey this message to their group.
 - ↳ They will have about two or three minutes to do this.
- Next, give instructions to the groups out of the hearing of the two

volunteers.

- ↳ Instruct the groups that when the two volunteers attempt to talk to them they should not respond to the volunteers.
- ↳ They should not make eye contact, but should ignore the volunteers completely.
- ↳ Encourage the group members to look away, busy themselves with other activities, and pretend that the individual is not really talking or even there.
- ↳ Individuals of the groups should be appointed to get a drink, read a book, write and pass a note to someone else, and be generally inattentive.
- After the two volunteers have had the opportunity to try to communicate with the group for several minutes, return to the large-group setting.
- Ask the volunteers to share the feelings they had when they couldn't get responses or actual attention from their group members.



3.2.2 Lecture: The Ecological Nature of Communication

Explain that this activity is a good example of the ecological nature of communication. There must be an interactive relationship in order for there to be valid communication. We need and desire feedback from those that we are communicating with or we will cease attempting to communicate because our previous attempts have not been validating experiences. Emphasize how difficult it is for students who have significant communication needs to continue to attempt to communicate with others when their communicative attempts are not consistently validated by those around them.



Goal 4: Identify adult behaviors that facilitate communication with students.



4.1 Lecture: Creating Effective Communication

Remind the paraeducators of the importance of ecological factors, then ask them to think of the adults in a student's life as ecological factors. Explain that, in many cases, the most important ecological component to success for students are the adults in their lives.

There are many behaviors that adults can exhibit when working with students that will increase the likelihood of effective communication for many students. Present and review the **Techniques for Effective Communication** handout and transparency (H4/T7).

- Conversation and Listening
 - ↳ Students who have balanced conversational relationships with adults communicate frequently for enjoyment, often commenting or showing friendship. Adults who communicate with students using many questions and cues or commands are placing the student in a more passive, unsuccessful role. Often, by sharing the conversation, students learn to use their communications for active learning and social sharing.
 - ↳ Comments give a student the freedom to respond in a way that is comfortable, whereas questions and cues or commands create demand and give students few options for responding.
 - ↳ Students are more successful and may learn more when there is not pressure to give a certain answer.
 - ↳ Balanced conversations give students a chance to learn to participate actively.
 - ↳ Listening means not only listening for the verbal message, but paying attention to the other communication clues as well.
 - ↳ Sharing in a balanced conversation often includes restating the message back to the student to insure understanding.
- Social Play
 - ↳ When a student and an adult are involved in frequent, playful, spontaneous contact, the student has many opportunities to learn to be interactive and communicative.
 - ↳ The student and the adult must play in the same activity, with the same focus, in order for the student to learn and be social

- and communicative.
- ↳ The adult must play using more than talk and exchange actions and other back and forth communications without pressure in order for students to succeed.
- ↳ The student learns how to be social and communicative when adults build partnerships with them, rather than using frequent directions and questions and discouraging feedback.
- Communication
 - ↳ Students become habitual communicators through their back-and-forth message exchanges with others. Adults who keep students in communicative exchanges for social purposes help the students improve their skills and intelligibility.
 - ↳ Students often communicate more when the adult waits.
 - ↳ Matching a student's words and interests keeps the student interacting because they can be successful.
 - ↳ When adults communicate less, students often communicate more.
 - ↳ Using words that are functional for students, like "more," "play," or "help" gives them language they can regularly use.
- Balance
 - ↳ Being a balanced communication partner with a student means allowing the student to actively participate with you. Students have some control and feel competent. They see that they have an effect on others and are motivated to stay with others and communicate more.
 - ↳ Students must participate in interactions to learn to be social and communicative.
 - ↳ Adults must do things a student can do and allow them the time needed to do it.
 - ↳ Communication develops from the simplest actions and sounds; playing with simple actions and sounds is essential for communication.
 - ↳ A child can learn the social rules of give and take in infancy or very early in life, which increase communication, learning, and social cooperation.
- Matching and/or Simplifying Language
 - ↳ Being a matched partner means doing things the student is able to do or is trying to do. Adults can match a student's actions, non-verbal communications, language, and interests. Students seem to have more success when they are with adults who act

- and communicate like them.
- ↳ Be careful not to use baby talk, instead simply adjust the complexity of sentences to match that of the student.
- ↳ Matched actions and communications are more easily learned.
- ↳ The adult should read the student for what to match, in order to understand what the student can do or is trying to do.
- ↳ Be a “staircase partner.” Be on both the student’s step and on the next step to show the student what else to do or what comes next.
- Responsiveness
 - ↳ Being a responsive communication partner means being aware of the developmental steps students must take to become more competent communicators. When adults respond sensitively to students, students are motivated to keep interacting and communicating.
 - ↳ Adults must read students to see and respond to emerging behaviors.
 - ↳ Students repeat more of the behaviors that adults respond to than the ones they ignore. You must determine which behaviors are positive and which are negative to respond appropriately.
 - ↳ A student’s social and communicative development depends on the sensitive responsiveness of the adults in their lives.
- Non-Directiveness
 - ↳ Being a non-directive communication partner means allowing students to express their own ideas through actions, sounds, and speech. Non-directive communication partners limit their use of questions or cues and commands, comment more, and have an easy give-and-take with students.
 - ↳ Comments allow students freedom of expression. Questions and cues or commands limit how a student may respond, and may end an interaction completely.
 - ↳ Responding to a student’s interests may help build a conversation.
 - ↳ Commenting, then giving the student time to respond, helps the student play an active role in conversations.
 - ↳ Students may converse longer with an adult if the adult does not accept only correct responses.
- Emotional Attachment
 - ↳ Being an emotionally attached communication partner means developing genuine enjoyment in being with the student. When

adults are emotionally attached, they help create a safe environment for the student to develop the habit of interacting.

- ↳ Both adults and students need to feel competent and successful with each other.
- ↳ Emotional attachment comes from a sense of mutual competence.
- ↳ Emotion can motivate or discourage communication and can decrease or increase the communicative risks for a student.

- Turn-Taking

- ↳ Turn-taking refers to interactions that have balanced give-and-take exchanges between individuals. A student needs regular involvement in this type of exchange in order to learn the basic principle of “give in order to get.”
- ↳ Waiting for a student may give him or her extra time to respond. When an adult responds too quickly, the student learns that their role is to say nothing and the adult will do all of the work.
- ↳ When adults take the majority of the turns, students aren’t given a chance to show what they know.
- ↳ Students may need cues or signals to continue interacting. Nonverbal signals are often effective in keeping a student in a turn-taking exchange.

- Wait Time

- ↳ As a rule, adults struggle with the quiet time in a conversation, but, for someone who uses a communication system or who has processing difficulties, quiet time is a natural part of the communication process. As communication partners, adults need to learn to give the students adequate time to process and then produce communication.
- ↳ It is confusing for students who need processing time to receive multiple cues and questions. Many cues and questions can be regarded by the student as new information rather than additional helpful information and may impede processing for a communicative attempt.
- ↳ Communication partners typically have to practice being quiet and using wait time. They often find it very difficult to not interject “just one more verbal cue that might be helpful.”



4.2 Lecture: Incidental Teaching

There are limitations to the interactive process of communication in the school environment, and not all techniques are easily implemented on a daily basis. In order to achieve the highest levels of communication in students who have significant communication support needs, adults must constantly seek creative opportunities for the student to practice these dynamics.

Validating the developing student's thoughts and feelings is key. Validation is the key to communicative success for students, and the reason for engaging in the techniques presented in **4.1 Lecture: Creating Effective Communication**. All of the techniques are examples of ways to provide validation for the student. Validation is the reason that any human being engages and continues to engage in communication with others.

Throughout the school day, paraeducators attempt to validate communicative attempts using the techniques covered in **4.1 Lecture: Creating Effective Communication** and others. As they do so, they find that they become experts at finding and using opportunities for incidental teaching.

Present and review the **Incidental Teaching** transparency (**T8**). Incidental teaching is based on the premise that student-initiated interactions set the stage for teaching language. Emphasize that we must respond to student's communicative attempts by seizing teachable moments that encourage more elaborate speech and communication. To do this, we seize the naturally occurring opportunities (i.e., a student's request for help in pouring juice at lunch or asking for help with their shoelaces) to teach language that is slightly above the student's current level. The key to incidental teaching is its focus on responding to student initiated communication, whether it is verbal or not. As a result, students:

- Improve their communicative competence,
- Increase their spontaneous communication, and
- Increase their independence.

Module A Handouts

Module A: Typical Language Development and Effective Human Communication

1. Recognize the components of typical language development.
2. Identify the basic components of human communication.
3. Recognize the ecological components of communication.
4. Identify adult behaviors that facilitate communication with students.

Typical Language Development

- 0 - 1 month
 - ↳ Differentiated cry.
 - ↳ Social smile.
 - ↳ Shows positive responses to adults talking to him or her.
- 1 - 4 months
 - ↳ Participates in vocal play.
 - ↳ Laughs.
 - ↳ Blends vowel sounds together.
 - ↳ Makes sounds with objects in mouth.
 - ↳ Experiments with sounds.
 - ↳ Establishes turn-taking games.
 - ↳ Anticipates events with situational cues.
- 4 - 8 months
 - ↳ Differentiates sounds of toys and people.
 - ↳ Increased variety of sounds (both vowels and consonants).
 - ↳ Looks or acts to start or repeat a game.
 - ↳ Recognizes familiar people and routines.
 - ↳ Babbles.
- 8 - 12 months
 - ↳ Differentiated sounds for wants.
 - ↳ Uses simple jargon.
 - ↳ Single words (mama and dada).
 - ↳ Babbles.
 - ↳ Initiates familiar games with a variety of signals.
 - ↳ Recognizes words with situational cues.
 - ↳ Uses a “gimme reach.”
- 12 - 18 months
 - ↳ Increased single word vocabulary.
 - ↳ Names familiar objects.
 - ↳ Imitates novel sounds/words.
 - ↳ Uses objects in social exchanges.

Stages of First Language Development (continued)

- 18 - 24 months
 - ↳ Two-word sentences (nouns, verbs).
 - ↳ Uses elaborate jargon.
 - ↳ Speech-to-speech responses.
 - ↳ Rapid vocabulary increases.
 - ↳ Refers to absent objects.

- 2 - 7 years
 - ↳ Average vocabulary:
 - ⇒ 3-year-olds = 900
 - ⇒ 4-year-olds = 1500
 - ⇒ 5-year-olds = 2200
 - ↳ Typical sentence length:
 - ⇒ 3-year-olds = 3-4 words
 - ⇒ 4-year-olds = 5-6 words
 - ⇒ 5-year-olds = 6+ words
 - ↳ Pronunciation:
 - ⇒ 3-year-olds mispronounces 40% of speech.
 - ⇒ 4-year-olds mispronounce 20% of speech sounds.
 - ⇒ 5-year-olds mispronounce 10% of speech sounds.
 - ↳ First words are nouns, then verbs.
 - ↳ Most articulation problems are eliminated by seven years of age.
 - ↳ Develops repetition.
 - ↳ Monologues form. Uses lengthy utterances while talking to self.
 - ↳ Collective monograph develops. Simultaneous talk between two children with no interaction.
 - ↳ Associates actions with others. Child talks to self, but is aware someone is listening.
 - ↳ Quarreling, expresses a need to be understood.
 - ↳ Primitive arguments. Disagrees and gives differing point of view.
 - ↳ Collaboration of abstract thought. Discusses a topic not shared in an activity.
 - ↳ Genuine argument. The child uses the word "because."

Stages of First Language Development *(continued)*

- 7 - 11 years
 - ↳ Exchanges thoughts with the people around him or her.
 - ↳ Makes subjective value judgments.
 - ↳ Questions to obtain information.
 - ↳ Attempts to influence the actions of others.
 - ↳ Will learn to use 5,000 new words.
 - ↳ Will read 50,000 words.
 - ↳ Increased ability to use compound and complex sentences.
- 11+ years
 - ↳ Continued vocabulary acquisition and ability to express complex ideas and explanations in a logical sequential manner.

Components of Speech and Language

- Speech
 - ↳ A physical act, usually consisting of air, breathe, and voice.
 - ↳ The synchronized use of air, tongue, teeth, throat, lips, and muscles in the mouth and throat.
- Language
 - ↳ A cognitive action that allows an individual to:
 - ⇒ Receive information.
 - ⇒ Comprehend meaning.
 - ⇒ Recall information.
 - ⇒ Express thoughts, feelings, etc., and communicate to a partner.
 - ⇒ Apply information to previously acquired information (i.e., foreign language acquisition).
 - ⇒ Apply previously acquired understanding to new situations, to generalize meanings.

Creating Effective Communication

- Conversation and Listening
 - ↳ Students who have balanced conversational relationships with adults communicate frequently for enjoyment, often commenting or showing friendship. Adults who communicate with students using many questions and cues or commands are placing the student in a more passive, unsuccessful role. Often, by sharing the conversation, students learn to use their communications for active learning and social sharing.
 - ↳ Comments give a student the freedom to respond in a way that is comfortable, whereas questions and cues or commands create demand and give students few options for responding.
 - ↳ Students are more successful and may learn more when there is not pressure to give a certain answer.
 - ↳ Balanced conversations give students a chance to learn to participate actively.
 - ↳ Listening means not only listening for the verbal message, but paying attention to the other communication clues as well.
 - ↳ Sharing in a balanced conversation often includes restating the message back to the student to insure understanding.
- Social Play
 - ↳ When a student and an adult are involved in frequent, playful, spontaneous contact, the student has many opportunities to learn to be interactive and communicative.
 - ↳ The student and the adult must play in the same activity, with the same focus, in order for the student to learn and be social and communicative.
 - ↳ The adult must play using more than talk and exchange actions and other back and forth communications without pressure in order for students to succeed.
 - ↳ The student learns how to be social and communicative when adults build partnerships with them, rather than using frequent directions and questions and discouraging feedback.
- Communication
 - ↳ Students become habitual communicators through their back-and-forth message exchanges with others. Adults who keep students in communicative exchanges for social purposes help the students improve their skills and intelligibility.

Creating Effective Communication

(continued)

- ↳ Students often communicate more when the adult waits.
- ↳ Matching a student's words and interests keeps the student interacting because they can be successful.
- ↳ When adults communicate less, students often communicate more.
- ↳ Using words that are functional for students, like "more," "play," or "help" gives them language they can regularly use.
- Balance
 - ↳ Being a balanced communication partner with a student means allowing the student to actively participate with you. Students have some control and feel competent. They see that they have an effect on others and are motivated to stay with others and communicate more.
 - ↳ Students must participate in interactions to learn to be social and communicative.
 - ↳ Adults must do things a student can do and allow them the time needed to do it.
 - ↳ Communication develops from the simplest actions and sounds; playing with simple actions and sounds is essential for communication.
 - ↳ A child can learn the social rules of give and take in infancy or very early in life, which increase communication, learning, and social cooperation.
- Matching and/or Simplifying Language
 - ↳ Being a matched partner means doing things the student is able to do or is trying to do. Adults can match a student's actions, non-verbal communications, language, and interests. Students seem to have more success when they are with adults who act and communicate like them.
 - ↳ Be careful not to use baby talk, instead simply adjust the complexity of sentences to match that of the student.
 - ↳ Matched actions and communications are more easily learned.
 - ↳ The adult should read the student for what to match, in order to understand what the student can do or is trying to do.
 - ↳ Be a "staircase partner." Be on both the student's step and on the next step to show the student what else to do or what comes next.

Creating Effective Communication

(continued)

- Responsiveness
 - ↳ Being a responsive communication partner means being aware of the developmental steps students must take to become more competent communicators. When adults respond sensitively to students, students are motivated to keep interacting and communicating.
 - ↳ Adults must read students to see and respond to emerging behaviors.
 - ↳ Students repeat more of the behaviors that adults respond to than the ones they ignore. You must determine which behaviors are positive and which are negative to respond appropriately.
 - ↳ A student's social and communicative development depends on the sensitive responsiveness of the adults in their lives.
- Non-Directiveness
 - ↳ Being a non-directive communication partner means allowing students to express their own ideas through actions, sounds, and speech. Non-directive communication partners limit their use of questions or cues and commands, comment more, and have an easy give-and-take with students.
 - ↳ Comments allow students freedom of expression. Questions and cues or commands limit how a student may respond, and may end an interaction completely.
 - ↳ Responding to a student's interests may help build a conversation.
 - ↳ Commenting, then giving the student time to respond, helps the student play an active role in conversations.
 - ↳ Students may converse longer with an adult if the adult does not accept only correct responses.
- Emotional Attachment
 - ↳ Being an emotionally attached communication partner means developing genuine enjoyment in being with the student. When adults are emotionally attached, they help create a safe environment for the student to develop the habit of interacting.
 - ↳ Both adults and students need to feel competent and successful with each other.
 - ↳ Emotional attachment comes from a sense of mutual competence.

Creating Effective Communication

(continued)

- ↳ Emotion can motivate or discourage communication and can decrease or increase the communicative risks for a student.
- Turn-Taking
 - ↳ Turn-taking refers to interactions that have balanced give-and-take exchanges between individuals. A student needs regular involvement in this type of exchange in order to learn the basic principle of “give in order to get.”
 - ↳ Waiting for a student may give him or her extra time to respond. When an adult responds too quickly, the student learns that their role is to say nothing and the adult will do all of the work.
 - ↳ When adults take the majority of the turns, students aren’t given a chance to show what they know.
 - ↳ Students may need cues or signals to continue interacting. Nonverbal signals are often effective in keeping a student in a turn-taking exchange.
- Wait Time
 - ↳ As a rule, adults struggle with the quiet time in a conversation, but, for someone who uses a communication system or who has processing difficulties, quiet time is a natural part of the communication process. As communication partners, adults need to learn to give the students adequate time to process and then produce communication.
 - ↳ It is confusing for students who need processing time to receive multiple cues and questions. Many cues and questions can be regarded by the student as new information rather than additional helpful information and may impede processing for a communicative attempt.
 - ↳ Communication partners typically have to practice being quiet and using wait time. They often find it very difficult to not interject “just one more verbal cue that might be helpful.”

Module A Transparencies

Module A: Typical Language Development and Effective Human Communication

SgCommA-T1



- ***Recognize the components of typical language development.***
- ***Identify the basic components of human communication.***
- ***Recognize the ecological components of communication.***
- ***Identify adult behaviors that facilitate communication with students.***

Communication

SgCommA-T2



The transmission or conveyance of information (i.e., ideas, wants, needs, etc.) from one party to another, and the ability to use language and speech to interact with a partner.

Why We Communicate

SgCommA-T3



We communicate because we:

- *Have something we want to say.*
- *Need something.*
- *Have emotions that we want to express:
anger, happiness, fear, etc.*
- *Like to talk to other people.*
- *Are lonely.*

How We Communicate

SgCommA-T4



We communicate through:

- *Words.*
- *Body language.*
- *Systems and devices, both low- and high-tech.*
- *Emotions.*
- *Silence.*
- *Sign language.*
- *Through an interpreter.*

Components of Speech and Language

SgCommA-T5



Speech

- *A physical act usually consisting of air, breathe, and voice.*
- *The synchronized use of air, tongue, teeth, throat, lips, and muscles in the mouth and throat.*

Language

- *A cognitive action that allows an individual to:*
 - ↳ *Receive information.*
 - ↳ *Comprehend meaning.*
 - ↳ *Recall information.*
 - ↳ *Express thoughts, feelings, etc., and communicate to a partner.*
 - ↳ *Apply information to previously acquired information.*
 - ↳ *Apply previously acquired understanding to new situations, to generalize meanings.*

Ecological

SgCommA-T6



An examination of the relations between living organisms and their environment.

Techniques for Effective Communication

SgCommA-T7



- *Conversation and Listening*
- *Social Play*
- *Communication*
- *Balance*
- *Matching and/or Simplifying Language*
- *Responsiveness*
- *Non-Directiveness*
- *Emotional Attachment*
- *Turn-Taking*
- *Wait Time*

Incidental Teaching

- *Student-initiated interactions set the stage for teaching language.*
- *Seize the naturally occurring opportunities to teach language that is slightly above the student's current level.*
- *Focus on responding to student initiated communication, whether it is verbal or not.*
- *Results in:*
 - *Improved communicative competence,*
 - *Increased spontaneous communication, and*
 - *Increased independence.*

Module B: The Relationship Between Communication and Independent Life

Significant Communication Support Needs Academy

Module B: The Relationship Between Communication and Independent Life



A. Module Goals

Using the **Module B: The Relationship Between Communication and Independent Life** handout and transparency (H1/T1), review the goals of the module.

1. Recognize the communicative intent of human behavior.
2. Define processing and comprehension difficulties.
3. Describe the process of communication without speech.
4. Identify the role of the paraeducator in facilitating student communication.



Goal 1: Recognize the communicative intent of human behavior.



1.1 Activity: Communicative Intent

Paraeducators will participate in an activity that provides an opportunity to gain a better understanding of communicative intent.



1.1.2 Steps

- Have the participants break into groups of four.
- Distribute the **Communicative Intent** handouts (**H2/H3/H4/H5**) to the participants, ensuring that each group has only one member with each of the handouts. Instruct the participants to not share the content of their handout with the other group members.
- Instruct each member of the group to try to make the other group members understand their message through multiple forms of communication, using the following rules:
 - ↳ The person communicating the message may answer questions using only the following words, gestures, or sign language: “yes,” “no,” “more,” and/or “want.”
 - ↳ The person communicating the message may smile, nod, and use a directed eye gaze.
 - ↳ The person communicating the message may use negative emotions like whining, crying, anger, or physical outbursts (i.e., throwing materials on the floor, stamping feet, etc.).
 - ↳ The person communicating the message **MAY NOT** use systems such as charades, finger spelling, or systems that obviously would not be available to a person with a significant communication need.
- Direct the attendees to begin with one person per group, attempting to communicate their message to the other members of the group using the above guidelines. They should proceed until each member of the group has had the opportunity to attempt to communicate their message. Each person should take several minutes in their attempt.
- After each group has completed the activity, distribute the **Reflecting on Communicative Intent** handout (**H6**).
- Have the participants complete the handout individually by reflecting on and writing about their experiences in this activity.
- When finished, return to the large-group setting.



1.2.2 Discussion: Reflecting on Communicative Intent

Engage the participants in a discussion regarding their reflections, covering each question.

- How did you feel when you were attempting to communicate your message?
- How did you feel when you were attempting to interpret a message?
- Did you feel that you had adequate skills to communicate your message? What skills would have helped?
- Did you feel that you had adequate skills to understand the message? What skills would have helped?
- Did you think that it was any easier to understand the attempted communication of the people who presented third or fourth? Why or why not?
- If this were the only way that you could communicate all day long, what would you want the environment around you to be like?

Ensure the discussion includes the following points:

- There is frustration for both the communicator and the interpreter.
- The better one knows the communicator, the more likely the communication will be successful.
- We communicate with far more than just words.
- Simple or complex communications are difficult to understand when there is a limited means of communication.
- Consistently misunderstood communicative attempts are likely to result in shutdown or some sort of acting out behaviors, possibly for the both the communicator and the interpreter.
- As we have increased experience with being an interpreter, we have higher levels of success and higher levels of accuracy in understanding the attempted communication.
- All behaviors of the communicator have communicative intent.
- When finished, distribute the **Implications for the Interpreter**

handout (H7).

- Have the participants complete the handout individually by reflecting on and writing about their experiences in this activity.
- When finished, return to the large-group setting.



1.2.3 Discussion: Implications for the Interpreter

Engage the participants in a discussion regarding their reflections, covering each question.

- Why is it important for some students to have support from someone who has a good understanding of that student's typical means of communication?
- Think of some of the most challenging behaviors that you have seen in classrooms, that you have worked in, or with students that you have observed. Could those behaviors be happening because of the student's frustration at not being able to communicate what he or she wants? What could have been some possible things those students were attempting to communicate?
- Can you think of times that a student may have been attempting to communicate with you and you may have interpreted that attempt as just "bad behavior" or "I'm not sure why that student is doing that so I'll just go on with the lesson" or something similar? What was that circumstance and what, if anything, would you do differently now to encourage better communication?

Ensure the discussion includes the following points:

- It is critical that all communicative attempts made by students who have significant communication needs are acknowledged.
- If they aren't acknowledged, further attempts will soon be stifled or inappropriate means of communication that will get "action" will surface.
- It is important to become good observers of the students that one works with.
- It is important to pass on what is known about the communicative attempts of students so that the student can communicate with others and is not limited to just one or two communication partners.
- The same information is true in this situation as was true when discussing incidental teaching.

- ↳ Students improve their communicative competence.
- ↳ Students increase their spontaneous communication.
- ↳ Students increase their independence.



Note to Instructor: At this point, the participants may have questions about reinforcing bad behavior by understanding what the student wants and giving in to bad behavior. Assure the participants that this is not the case. As we become better interpreters, we begin to predict and set up systems that help the student communicate in other, more effective and appropriate ways. This will be addressed in **Goal 3: Describe the process of communication without speech**. The important point to make at this time is that if we disregard communicative attempts and do not acknowledge all attempts, regardless of their appropriateness, we will miss the intent of the communication. The student will not learn how to better and more effectively communicate because their attempts have not been validated.



Goal 2: Define processing and comprehension difficulties.



2.1 Lecture: Receptive and Expressive Language

Individual communication skills are typically defined by the individual's receptive or expressive language level.

Present and review the **Receptive Language** transparency (T2). Receptive language is:

- The ability to understand language, and
- Usually more developed than expressive language skills.

Present and review the **Expressive Language** transparency (T3). Expressive language is:

- The ability to express thoughts, ideas, and feelings; and
- Usually less developed than receptive language skills.



2.2 Discussion: Receptive Language

Referring to **Goal 1: Recognize the communicative intent of human behavior**, review with the participants how typical students learn language. Remind participants that students typically hear and understand language before they actually use language, and that for many children, the learning of language occurs through its predictable use. For example, a mother talks to her newborn or very young infant constantly using the term “mommy.”

- “Mommy loves you.”
- “Mommy’s here, you’re okay.”
- “You are Mommy’s sweet baby.”

The infant begins to associate the use of the word “mommy” with the presence of that person and understands that the word “mommy” is that person. The baby thus has a label for something very important even though it is quite some time before the baby can say “mama.” If asked, “Where’s mommy,” when very young and before the baby can speak, the baby will often visually search for their mother and smile when they locate her. This is receptive language, the language that we receive through hearing and with which we associate meaning.

Engage the participants in a discussion of receptive language, soliciting specific examples of receptive language. The examples should include names of people,

objects, activities, etc.



2.3 Discussion: Expressive Language

Refer to the example used for receptive language, the baby understood the word “mommy” well before it was able to say the word. Engage the participants in a discussion regarding the development of this chain of learning over time for typically developing children. Be sure the discussion includes the following:

- First, there is receptive information regarding an idea, thought, or feeling;
- Next, there is verbal expression of the representative word, phrase, or concept.



2.4 Lecture: Further Understanding Receptive and Expressive Language

When human beings are using receptive language skills, they are said to be processing and comprehending. This means that the brain is engaged in the process of understanding or comprehending the words that have been spoken, the intent of the language, and the expectation for response to the language just received. This concept is especially important as we look further at the needs of students who have significant communication support needs.

There are many disabilities that affect the typical functioning of the brain. Disabilities such as mental retardation, autism, cerebral palsy, traumatic brain injury and many others often have a profound impact on an individual’s ability to process and comprehend language. Regardless of the etiology (cause) of the disabling condition, the result is that caregivers and teachers must assist the learner in ways that acknowledge the processing and comprehension difficulties. The ability of students with significant communication support needs to use receptive and expressive language skills is not like that of their typically developing peers. It is often the job of the paraeducator assisting these students to understand what receptive language level the student is at, what expressive language skills can be used, and what processing and comprehension difficulties the student will have within the daily school setting.



Goal 3: Describe the process of communication without speech.



3.1 Lecture: Students and Communication Needs

Many students in school settings communicate without the use of verbal language. These students depend on the systems that are put in place for them for all of their communication needs. These students often depend heavily on paraeducators to be highly competent and efficient communication partners. There are many means of communication that do not include the use of verbal language.

Present and review the **Communication Without Speech** transparency (T4).
Methods for communication without speech include:

- Sign Language
- Gestures
- Eye Gaze
- Icons
- Objects
- Symbols
- Schedules
- Calendars
- Low-Tech Systems
- High-Tech Systems

Many communication systems for students use technology. Those systems are divided into two modalities, low- and high-tech, and are referred to as augmentative communication systems. These will be addressed in ***Module C: Low- and High-Tech Augmentative Communication Systems***.



3.2 Lecture: Total Communication

Many students with significant communication support needs are assisted through the use of total communication. Present and review the **Total Communication** transparency (T5). Total communication is a method that utilizes a combination of visual and auditory cues in an attempt to maximize comprehension.

Total communication heightens the possibility that a student will understand a communication through at least one of the modalities used. For example, a student who has a significant cognitive disability may benefit from being asked if he or she is

thirsty through a cluster of cues presented at the same time.

- Verbally, “Do you want a drink?”
- Paired sign, “drink.”
- Object cue of student’s drinking glass or picture icon of a glass or drinking.

The expectation is that, over time, the student will begin to use the total communication system to respond to the cues. The student may nod their head yes or no, reach toward the glass, look at the glass, smile and look at the glass or icon, or sign “drink” in response. Any of these responses would be reinforced for their communicative intent. It is hoped that the student will eventually use any one of these skills to spontaneously indicate that he or she would like a drink without having been asked.

Total communication is sometimes a controversial method. Some teachers and parents believe that for some students a multi-modal presentation of cues is confusing. Others believe that it is highly successful and lessens confusion because the student is able to understand at least one or more of the cues and thus has a higher likelihood of increased communication.

Regardless of these beliefs it is apparent that students with significantly limited verbal skills rely heavily on the systems and opportunities created for them. Consistent and predictable use is the key to communication success for these students.



3.3 Lecture: Hierarchy of Communicative Assistance

There is typically a hierarchy of assistance used in determining the best mode for encouraging communication for those students who are nonverbal. The hierarchy proceeds from concrete to abstract depending on the need of the individual. Any part of the hierarchy can be accompanied by other communicative systems such as sign, verbal cues, physical assists, etc. Present and review the **Hierarchy of Communicative Assistance** handout and transparency (H8/T6).

- Concrete to Abstract:
 - ↳ An object that is part of the activity it represents.
 - ↳ An object that is identical to the one used in the activity.
 - ↳ An object that is similar but not identical to one used in the activity.
 - ↳ A part of the object.
 - ↳ A photo of the object.

- ↳ A full-sized, colored drawing of the object.
- ↳ A full-sized, black and white drawing of the object.
- ↳ A reduced-sized, black and white drawing of the object.
- ↳ A reduced-sized, black and white drawing paired with a printed word.
- ↳ A printed word.

As the student becomes more competent in their communication skills, both expressively and receptively, the philosophy supporting this hierarchy encourages an attempt to move the student as far as possible from concrete to abstract.



3.4 Lecture: Guidelines for a Complete and Functional Communication System

Present and review the **Guidelines for Developing a Complete and Functional Communication System** handout and transparency (H9/T7). In determining how to use the hierarchy of communicative assistance, it is helpful to use the following guidelines to assist in developing a communication system.

- Take advantage of the existing communication skills of the student.
 - ↳ Observe the communication strategies students already use to communicate. How does the student communicate in different settings, routines, and activities?
 - ↳ Build on existing types of communicative behavior by teaching socially desirable and functionally equivalent forms of behavior that can be understood by as many people as possible.
- Select functional communication targets and identify powerful teaching opportunities.
 - ↳ When selecting communication targets, ask yourself if the learning is going to make this student more independent.
 - ↳ Select potential teaching opportunities that will likely be motivating by using current student initiated communicative attempts.
- Facilitate the widespread use of the new forms of behavior.
 - ↳ Identify situations in which the student currently uses his or her existing forms of communication.
 - ↳ Determine why the student might be using the particular forms of communication he or she is.
 - ↳ Teach the new communication form in all situations where the student currently uses the old form.
- Ensure maintenance of the new behavior.

- When replacing existing forms of communicative behavior, ensure that the new form takes less effort and produces reinforcement more rapidly and more frequently than the old one.



3.5 Lecture: Structured Approaches to Learning

Many students require a more structured approach to learning. This is often the case for students who have autism, attention deficit disorder, learning disabilities, hearing and vision difficulties, etc. This need is greatly increased for those students who have some of the same disabilities and who also have limited or no verbal language skills. A structured approach to learning for those students clearly defines environments, schedules, activities, and expectations.

Structure provides students with predictability. As covered earlier in this academy, predictability in the learning environment has desirable outcomes. Using a structured approach for students includes:

- Structuring and managing the physical learning environment,
- Providing visually or tactilely accessible schedules of the day or activities, and
- Matching teaching to the needs of the student.

Providing the student with an accessible schedule is a very critical component to a structured approach. It is the component that the student will use to predict activities and thus become more independent.



3.6 Activity: Building a Structured Learning Environment

Paraeducators will participate in an activity that provides an opportunity to gain experience in building a structured learning environment.



3.6.1 Steps

- Have the participants break into groups of three or four.
- Distribute the **Building a Structured Learning Environment** handout (H10).
- Instruct the groups to review the handout and design the component parts to a structured learning environment for part of Martin's school day.

- The components should include the following:
 - ↳ A schedule for two hours of Martins day.
 - ↳ The communication system(s) that will be used, including opportunities for receptive and expressive communication.
 - ↳ The role of the paraeducator.
 - ↳ How the system and structured learning environment will assist with Martin's behaviors and learning needs.
- When finished, have the groups present their designs to the class, inviting questions and comments about their design.



Goal 4: Identify the role of the paraeducator in facilitating student communication.



4.1 Lecture: Paraeducators as Communication Partners

The chief role that a paraeducator has in facilitating communication for those students with significant communication needs is that of being a communication partner. It takes at least two to communicate and often students with significant communication needs find themselves communicating with a partner who is not catching their signals. Often, only a few of these communicative attempts are caught. As communication partners, paraeducators need to identify and understand these attempts.

Have you ever been in a classroom where a student is trying to request a turn and the adult in the room does not notice the student? If the student cannot communicate verbally, they often use other means to communicate, for example:

- A student may attempt to gain attention via eye gaze by looking at their communication partner and then look at the object they are requesting.
- A student may gesture with their foot or elbow towards a desired object in order to communicate a request for it.
- If the student has vocal skills, they may vocalize with a grunt or a yell.

Unfortunately, these communicative attempts are sometimes either ignored or seen as disruptive. It is often the responsibility of the paraeducator to learn and notice these subtle forms of communication and help the student develop effective means of communicating their message. It is also often necessary for the paraeducator to be an example to others or to actually teach others how to interact with the student.

Because the paraeducator is one of the primary adults in the student's academic world, their interactions serve as a model for other students and adults in the school. It is imperative to keep the techniques reviewed in this academy in mind and use them and/or others whenever possible.



4.2 Lecture: Communication Partners and Predictable Learning Environments

A key concept to understand is the relationship between predictability and increased communication skills. Many students, for whatever reason, have difficulties processing and comprehending language. If the environment that the student is spending time in everyday is predictable, there is likely to be a correlation between the environment and predictable learning behavior on the part of the student.

Present and review the **Predictable School Environment Components** transparency (T8). Predictable school environments include:

- A reliable daily schedule, and
- Reliable and consistent responses from communication partners.

Predictability leads to increased learning for most students. When students who already have processing and comprehension difficulties have to put energy into dealing with and understanding the implications of a disorganized daily schedule or unpredictable responses from those they should be able to depend on, they have little energy left for academic learning or reasonable communication. One typical response is that of shut down, just letting things happen around them rather than interact because they have a hard enough time understanding what is going on, let alone have an influence on or take part in the days activities. Another typical response is frustration or anger, expressed through acting out. Acting out is a means of gaining control, for example, “I just don’t know what is going on or what is expected of me and this is upsetting, so if I scream or make lots of loud noises they will take me back to the special ed room and leave me alone.”

Predictability is a key component to a more positive experience. Present and review the **Predictability** handout and transparency (H11/T9).

- When a student can *predict* what is coming next in the schedule or in an activity, they begin to *anticipate*.
- As the student anticipates they set themselves up to *engage* in the activity rather than resist it.
- As they engage they *increase* their *learning* which leads to *independence*.
- Independence is of critical importance whether it is for a portion of a skill or the entire activity. If the student has gained independence, there is a greater likelihood of the student using that skill at other times for further *communicative intent*.

As discussed in **Goal 1: Recognize the communicative intent of human behavior**, there are times when we understand why a student is engaged in inappropriate behavior as a means of communication. Though we understand why, we do not want to encourage inappropriate behaviors. Instead, as we understand more about predictability and its communicative intent, we begin to see that we can build systems for the student to communicate that will replace the inappropriate choices being made. These systems always take time to begin to have meaning to the student, but, if used consistently and with predictability, the student will be able to use them to engage in more appropriate communication.



4.3 Activity: Putting It Altogether

Paraeducators will participate in an activity that provides an opportunity to apply what they have learned to their roles as paraeducators.



4.3.1 Steps

- Present the following questions to the participants and ask them to think about each before continuing the activity.
 - ↳ If you don't have an immediate or right answer to some of your questions about the student(s) you had in mind when first coming to class, do you now at least have a different way of looking at the student(s) or at your skills?
 - ↳ What information don't you have that you now realize is essential to doing a better job with a student?
 - ↳ Can you develop a list of "maybes" that you could use to help a student ("Maybe this... or maybe this...or maybe that.")?
- Distribute the **Aha!** handout (**H12**).
- Instruct the participants to complete the handout by reflecting on their roles as communication partners, the student(s) they had in mind when they came to this class, and any "aha" moments they have had during this academy. If there have been no such moments, instruct them to write about what they have learned that they will be able to take back to class and directly apply to their interactions with students.
- When finished, have the participants break into groups of two or three and discuss their reflections.

Module B Handouts



Module B: The Relationship Between Communication and Independent Life

1. Recognize the communicative intent of human behavior.
2. Define processing and comprehension difficulties.
3. Describe the process of communication without speech.
4. Identify the role of the paraeducator in facilitating student communication.

Communicative Intent: *Message 1*

Do not share the content of this handout with your group members.

Today is my birthday.

Rules:

- Answer questions using only the following words, gestures, or sign language: “yes,” “no,” “more,” and/or “want.”
- Smiling, nodding, and using a directed eye gaze is allowed.
- Use negative emotions like whining, crying, anger, or physical outbursts (i.e., throwing materials on the floor, stamping feet, etc.).
- ⌘ ***DO NOT*** use systems such as charades, finger spelling, or systems that obviously would not be available to a person with a significant communication need.

Communicative Intent: *Message 2*

Do not share the content of this handout with your group members.

I stayed up late last night and I am very tired.

Rules:

- Answer questions using only the following words, gestures, or sign language: “yes,” “no,” “more,” and/or “want.”
- Smiling, nodding, and using a directed eye gaze is allowed.
- Use negative emotions like whining, crying, anger, or physical outbursts (i.e., throwing materials on the floor, stamping feet, etc.).
- ⌘ ***DO NOT*** use systems such as charades, finger spelling, or systems that obviously would not be available to a person with a significant communication need.

Communicative Intent: *Message 3*

Do not share the content of this handout with your group members.

We had a new bus driver this morning and that was upsetting for me.

Rules:

- Answer questions using only the following words, gestures, or sign language: “yes,” “no,” “more,” and/or “want.”
- Smiling, nodding, and using a directed eye gaze is allowed.
- Use negative emotions like whining, crying, anger, or physical outbursts (i.e., throwing materials on the floor, stamping feet, etc.).
- ⌘ ***DO NOT*** use systems such as charades, finger spelling, or systems that obviously would not be available to a person with a significant communication need.

Communicative Intent: *Message 4*

Do not share the content of this handout with your group members.

I have a rock in my shoe from recess and my foot hurts when I walk.

Rules:

- Answer questions using only the following words, gestures, or sign language: “yes,” “no,” “more,” and/or “want.”
- Smiling, nodding, and using a directed eye gaze is allowed.
- Use negative emotions like whining, crying, anger, or physical outbursts (i.e., throwing materials on the floor, stamping feet, etc.).
- ⌘ ***DO NOT*** use systems such as charades, finger spelling, or systems that obviously would not be available to a person with a significant communication need.

Reflecting on Communicative Intent

- How did you feel when you were attempting to communicate your message?

- How did you feel when you were attempting to interpret a message?

- Did you feel that you had adequate skills to communicate your message? What skills would have helped?

- Did you feel that you had adequate skills to understand the message? What skills would have helped?

- Did you think that it was any easier to understand the attempted communication of the people who presented third or fourth? Why or why not?

- If this were the only way that you could communicate all day long, what would you want the environment around you to be like?

Implications for the Interpreter

- Why is it important for some students to have support from someone who has a good understanding of that student's typical means of communication?

- Think of some of the most challenging behaviors that you have seen in classrooms, that you have worked in, or with students that you have observed. Could those behaviors be happening because of the student's frustration at not being able to communicate what he or she wants? What could have been some possible things those students were attempting to communicate?

- Can you think of times that a student may have been attempting to communicate with you and you may have interpreted that attempt as just "bad behavior" or "I'm not sure why that student is doing that so I'll just go on with the lesson" or something similar? What was that circumstance and what, if anything, would you do differently now to encourage better communication?

Hierarchy of Communicative Assistance

Concrete to Abstract:

- An object that is part of the activity it represents.
- An object that is identical to the one used in the activity.
- An object that is similar but not identical to one used in the activity.
- A part of the object.
- A photo of the object.
- A full-sized, colored drawing of the object.
- A full-sized, black and white drawing of the object.
- A reduced-sized, black and white drawing of the object.
- A reduced-sized, black and white drawing paired with a printed word.
- A printed word.

Guidelines for Developing a Complete and Functional Communication System

- Take advantage of the existing communication skills of the student.
 - ↳ Observe the communication strategies students already use to communicate. How does the student communicate in different settings, routines, and activities?
 - ↳ Build on existing types of communicative behavior by teaching socially desirable and functionally equivalent forms of behavior that can be understood by as many people as possible.
- Select functional communication targets and identify powerful teaching opportunities.
 - ↳ When selecting communication targets, ask yourself if the learning is going to make this student more independent.
 - ↳ Select potential teaching opportunities that will likely be motivating by using current student initiated communicative attempts.
- Facilitate the widespread use of the new forms of behavior.
 - ↳ Identify situations in which the student currently uses his or her existing forms of communication.
 - ↳ Determine the reasons that explain why the student might be using the particular forms of communication he or she is.
 - ↳ Teach the new communication form in all situations where the student currently uses the old form.
- Ensure maintenance of the new behavior.
 - ↳ When replacing existing forms of communicative behavior, ensure that the new form takes less effort and produces reinforcement more rapidly and more frequently than the old one.

Building a Structured Learning Environment

Martin is a six-year-old student who functions much like a two-and-a-half-year-old. He is in the first grade and is ambulatory. He does not dress himself, has very limited language (he uses three to five functional signs and gestures for most wants and needs), is beginning to toilet train, and requires monitoring and assistance for almost every learning activity. Martin does not model from others and prefers to play side-by-side. When he does not get his way, he will occasionally scream and fall on the floor, kicking those around him. He has good fine-motor skills but does not cut, color, or write without assistance. He has very limited pre-academic skills and all parts of his academic school day are adapted for his learning. He plays very well on the playground, but does not like to come in when the bell rings. He can become resistive and sometimes requires assistance getting down from equipment. He loves P.E. and music and is very difficult to manage during art. He likes media, especially being read to, and is beginning to use a mouse as a switch when using the computer, activating cause and effect activities. Martin understands picture representations for some activities and seems to do well with single signs for some communications. Martin has his greatest difficulties when transitioning from one activity to another. He does not seem to understand that it is time to stop an activity and often does not want to engage in the next activity. Martin's IEP says that he is working on number recognition, one through five; color identification for primary colors; playing with peers, turn taking; using the restroom; appropriate classroom behavior; using a schedule to independently start three activities; and using his fine-motor skills for functional tasks.

Predictability

Predictability



Anticipation



Engagement



Increased Learning



Independence



Communicative Intent

Aha!

- What “aha” moment did you have, or what have you learned, that you think may be applicable to the student(s) that you work with?

- How will you use this knowledge or information in your interactions as a communication partner?

- What impact do you think that information will have on the student(s)?

- What impact do you think that information will have on your learning and on your developing skill level?

Module B Transparencies

Module B: The Relationship Between Communication and Independent Life

SgCommB-T1



- ***Recognize the communicative intent of human behavior.***
- ***Define processing and comprehension difficulties.***
- ***Describe the process of communication without speech.***
- ***Identify the role of the paraeducator in facilitating student communication.***

Receptive Language

SgCommB-T2



Receptive language is...

- *The ability to understand language, and*
- *Usually more developed than expressive language skills.*

Expressive Language

SgCommB-T3



Expressive language is...

- *The ability to express thoughts, ideas, and feelings; and*
- *Usually less developed than receptive language skills.*

Communication Without Speech

SgCommB-T4



- *Sign Language*
- *Gestures*
- *Eye Gaze*
- *Icons*
- *Objects*
- *Symbols*
- *Schedules*
- *Calendars*
- *Low-Tech Systems*
- *High-Tech Systems*

Total Communication

SgCommB-T5



Utilizes a combination of visual and auditory cues in an attempt to maximize comprehension.

Hierarchy of Communicative Assistance

SgCommB-T6



- *An object that is part of the activity it represents.*
- *An object that is identical to the one used in the activity.*
- *An object that is similar but not identical to one used in the activity.*
- *A part of the object.*
- *A photo of the object.*
- *A full-sized, colored drawing of the object.*
- *A full-sized, black and white drawing of the object.*
- *A reduced-sized, black and white drawing of the object.*
- *A reduced-sized, black and white drawing paired with a printed word.*
- *A printed word.*

Guidelines for Developing a Complete and Functional Communication System

SgCommB-T7



- *Take advantage of the existing communication skills of the student.*
- *Select functional communication targets and identify powerful teaching opportunities.*
- *Facilitate the widespread use of the new forms of behavior.*
- *Ensure maintenance of the new behavior.*

Predictable School Environment Components

SgCommB-T8



- *Reliable daily schedule.*
- *Reliable and consistent responses from communication partners.*

Predictability

SgCommB-T9



Predictability



Anticipation



Engagement



Increased Learning



Independence



Communicative Intent

Module C: Low- and High-Tech Augmentative Communication Systems

Significant Communication Support Needs Academy

Module C: Low- and High-Tech Augmentative Communication Systems



A. Module Goals

Using the **Module C: Low- and High-Tech Augmentative Communication Systems** handout and transparency (**H1/T1**), review the goals of the module.

1. Explain the conceptual basis behind the use of augmentative communication systems.
2. Recognize, create, and operate low- and high-tech communication systems.



Note to Instructor: This module requires hands-on use of multiple types of communication systems, both low- and high-tech. You will need to arrange for materials to create low-tech communication systems available to the participants. These materials are defined more fully throughout the module. It will also be necessary to ensure that the class has the opportunity to access and operate high-tech systems. Typically, these materials and systems may be accessed through the school district's alternative, augmentative communication team. These systems will be more fully described and defined throughout the module.



Goal 1: Explain the conceptual basis behind the use of augmentative communication systems.



1.1 Lecture: Communication Systems

As human beings, communication is arguably one of our most important characteristics. As such, we must assume it is also important for the students with whom we work. Yet, how many of the students that we work with have effective communication systems? If they do have an effective communication system, how many of you are satisfied with the system, or feel competent and confident about assisting with its use?

Who should be responsible for making sure that students have effective communication systems? Ultimately, the family and the teacher have that responsibility, but every individual who has occasion to interact with the student on a frequent basis should have input and the necessary skills. Because paraeducators typically have the most contact with students, this applies to them.

Augmentative and alternative communication (AAC) refers to alternate methods of communicating. Individuals use sign language, gestures, or devices that help to indicate choices, such as machines that can speak for a person. There is a basic theory supporting the use of augmentative communication systems. Present and review **The Purpose of Augmentative and Alternative Communication Systems** transparency (T2). The purpose of augmentative and alternative communication systems is to provide the user with a method of choice-making and interaction that their lack of traditional communicative ability has not allowed.



1.2 Lecture: Integrating Communication Systems into the Classroom

Professionals in the field of communicative disorders have had many things to say about the use of technologically based systems. They have set the framework for a belief system about how to best assist students who may need the support of technology, low and high, in the classroom.

The most important reason to integrate communication systems into the classroom is to foster membership in the class, not to teach students how to use technology.

The purpose of all interventions, programs, and schooling in general is to enable all students

to actively participate in their communities so that others care enough about what happens to them that they look for ways to include the student in community.

High-tech communication devices do not “fix” students or give them a reason to communicate.

Assistive technology’s value lies in how it allows students to connect with people and events in their surroundings and to change how their needs are being met in those surroundings.



1.3 Lecture: Low- and High-Tech Communication Systems

Distribute and review the **Low- and High-Tech Communication Systems** handout (H2).

- Low-tech communication systems are portable systems for individualized communication which utilize objects, pictures or other symbols, have few moving parts, and do not require electricity or battery power. Low-tech communication systems include, but are not limited to:
 - ↳ Communication Rings
 - ↳ Communication Boards
 - ↳ Picture or Symbol Systems
 - ↳ Picture Exchange Systems
- High-tech communication systems are also portable, individualized, and utilize pictures or symbols, but usually also include some form of voice synthesis and take full advantage of the technological advances that are being made. High-tech communication systems usually include products that are complex electric or mechanical devices and include, but are not limited to:
 - ↳ Dynavox
 - ↳ Liberator
 - ↳ Touch Talker
 - ↳ Light Talker



1.4 Lecture: Low-Tech vs. High-Tech

Present and review the **Advantages and Disadvantages of Low-Tech Communication Systems** handout and transparency (H3/T3).

- Advantages:

- ↳ Low cost.
- ↳ Portability.
- ↳ Flexibility to customize for the individual.
- ↳ Availability.
- ↳ Non-reliance on external power sources.
- ↳ Uses easily replicated materials (objects, pictures, or symbols).
- Disadvantages:
 - ↳ Can be cumbersome.
 - ↳ Often, not immediate.
 - ↳ Can have a crude appearance.
 - ↳ More limited in scope of choices.

Present and review the **Advantages and Disadvantages of High-Tech Communication Systems** handout and transparency (H4/T4).

- Advantages:
 - ↳ Portable.
 - ↳ Individualized.
 - ↳ Uses pictures or symbols.
 - ↳ Can sound like speech, providing an audible voice for the user.
 - ↳ Sometimes faster.
 - ↳ Can use more advanced and mature speech patterns.
 - ↳ Universal understanding of communication (unlike sign language or the ultimate intent of some picture systems).
 - ↳ Can be updated.
 - ↳ Can share pre-stored vocabulary systems developed by experts in the fields.
 - ↳ Can be set up for users who have very limited motor skills through switches and scanning.
- Disadvantages:
 - ↳ Can be cumbersome.
 - ↳ Requires training for use by individual and support help.
 - ↳ Technology breakdowns.
 - ↳ Ongoing support to maintain and program.
 - ↳ Some who assist may “fear” technology and not encourage use.

Determining which is better, a low- or high-tech communication system, depends on the student for whom it is intended. Many students work better with low-tech systems because they are more durable, while other students who lack motor control demand a high-tech solution. Often, before such decisions are made, there is the option to try a system before one is actually purchased or made for the student.



Goal 2: Recognize, create, and operate low- and high-tech communication systems.



Note to Instructor: A large portion of this academy is dedicated to allowing the participants to interact with and create materials and to operate communication systems. Having the opportunity for hands-on activities is critically important when learning about communication systems. It will be left to the instructor to gather as many materials and systems as possible so that attendees have appropriate materials and options available to them. The remainder of this academy will give suggested options for materials, but the instructor must keep in mind that school districts differ greatly from each other with regard to the types of systems being currently used, materials most commonly found successful and access to the most current technologies. If this academy fails to mention a technique, type of system, or material the instructor should introduce it, explain its use, and encourage the participants to interact with it as part of the academy.

The instructor may also encourage participants to bring sample schedules and lists of student-based activities for specific students that they would like to create low-tech systems for. If the participants are working with students who do not have the ability to use abstract representations, such as picsyms or photos, the instructor should encourage bringing object representations that can be attached to a schedule.



2.1 Discussion: Commonly Used Low-Tech Materials

Introduce each of the following materials to the participants, allowing them to look at each. Engage the participants in a discussion regarding the use of each material.

- Mayer Johnson picture symbol books.
- Signing exact English book.
- Software for picture symbols, such as Board Maker or Picture It.
- A means to print pictures for use during activities.
- Paper for printing, cutting, drawing, etc.
- Multiple types of markers and pens.
- Scissors.
- Glue.
- Tape.
- Poster board.
- Index cards.
- Multiple examples of existent systems and teacher-made materials.

- Object boxes for choice making.
- Communication wallets.
- Rings for picture choices.
- Velcro.
- Any other materials the instructor feels are needed.



2.2 Lecture: Picture Communication Symbols

Picture Communication Symbols (PCS) may be an appropriate communication system for students with a variety of disabilities and for a variety of purposes. Some students may use the symbols to merely supplement their present and/or future communication skills (speech, gestures, sign language, etc.), however, PCS are most appropriate for use with students for whom a simple level of expressive language is acceptable. Typically, this involves a limited vocabulary and moderately short sentence structures. The student must be motivated to communicate in order to learn to use the symbols.

Designing a non-verbal aid that will be successfully used for actual communication is not an easy task.

- Input should be received from several sources: the student using the aid (if that is practical or possible), teachers, parents, and all others important in the student's daily life
- A clearly defined purpose addressing why a particular aid is being developed should be decided on from the outset.
- The purpose should include who will use the aid, where it will be used, and for what purpose.
- Investigation should take place to determine the number of symbols and words appropriate for the student using the aid. Numbers vary from a few to hundreds depending on the student's skills, needs, and desires.

This is a constantly ongoing process that develops as the student's abilities, needs, and desires change. PCS can also be used in combination with other types of pictures and symbols, including photographs, magazine pictures, other symbol pictures, or one's own drawings. For some individuals with physically handicapping conditions, simply pointing a finger to a symbol to indicate a word may not be possible or practical. Therapists can often help choose the best system and/or equipment for an individual.

There is no perfect form of communication aid for any individual. Primary forms of aids include communication boards and communication cards. It is often desirable to put some sort of clear covering over an aid, however, it should not be a permanent covering that

would limit the aid's flexibility in terms of vocabulary change and growth. Clear coverings that can be removed, such as photo album pages, are usually most desirable.

There are several factors that should be considered when placing the symbols on a communication aid.

- The most commonly used words should be positioned on the communication aid in places most easily accessible to the student.
- The symbols should be grouped in a logical manner for ease of use for both the non-verbal student and his or her communication partner.
- Vocabulary words placed in columns in the following progression.
 - ↳ People
 - ↳ Verbs
 - ↳ Descriptive
 - ↳ What
 - ↳ Where
 - ↳ When
- The social category and other symbols from the miscellaneous categories are then placed around or within the basic column layout to best fit the student's needs.

In books or cards, the pages can be arranged according to word categories. Blank spaces should be left on the communication aid so new words can be easily added whenever necessary. The most important consideration in creating a successful nonverbal communication aid is to individualize each aid to fit each student's needs, desires, and circumstances.

The amount of time necessary for a person to learn how to use a communication aid effectively will vary greatly. Begin by teaching the symbols. Pick only a few words for the first training sessions. Choose words the person will be motivated to use in actual communication. Common first words are "eat," "drink," "want," "more," "yes," "no," and "done." As the symbols are learned, transfer them to the communication aid.

The key to success is that once a symbol or system has been chosen and put in place, all communication partners must consistently use only that symbol or system rather than return to another old or previously used system as a matter of convenience. The student will find value and attempt independent use only through the consistent use and modeling on the part of his or her communication partners.

It is often too confusing for non-verbal students to be confronted with a board full of

symbols or a schedule with multiple symbols per activity all at once. Create the aid while teaching the person, not beforehand.

As soon as possible, each newly learned word should be incorporated into actual communication situations. Involve many communication partners (parents, teachers, friends, etc.) at this time. Create immediate opportunities for the student to use the symbols, this will significantly improve the student's motivation for continued use and to learn more symbols.

As the student's vocabulary increases, it may be appropriate to link words together, constructing simple sentence structures. For example, using a sample communication board or strip, the sentence could be, "I want cookie." Symbols on the aid should be used to convey meaning rather than introducing grammatically correct sentences.

Distribute and review the **Picture Communication Symbols** handout (H5).

- Always encourage the student to vocalize while indicating the symbols during communication.
- Color-coding word groups on the permanent aid can be useful.
- Teach the student to access the symbols in many different positions, ensuring he or she knows the symbol by itself and not just because of its the position on an aid.
- For some students, it may be necessary to teach large-sized symbols first and then proceed to small-sized symbols.
- A student should be taught to generalize the meanings of words as often as possible, helping the student communicate more ideas with fewer symbols. For example, the symbol for "bed" may used to indicate bed, sleep, or nap, depending upon the context of the situation.
- Watch for symbol overload. Each student will have a limit to how many symbols he or she can use effectively.
- For some students, teaching may need to be broken down into smaller steps. This may involve using progressively more abstract stimuli starting with concrete objects, then photographs, colored pictures, line drawings, etc. until the student can associate the picture with the word.



Note to Instructor: The following information regarding picture communication symbols is pertinent to both low- and high-tech communication systems.



2.3 Activity: Creating Low-Tech Communication Systems

Paraeducators will participate in an activity that provides an opportunity to gain experience

creating low-tech communication systems that can be used with students.



Note to Instructor: Prior to beginning this activity, gather the materials listed in **2.1 Discussion: Commonly Used Low-Tech Materials** and place in a central location that the participants can easily access, multiple locations may be used.



2.3.1 Steps

- Review the materials and their common uses with the class.
- Individually or in pairs, have the participants use the materials provided to create low-tech communication systems that could be used with their own students.
- When finished, have the participants share their systems with the class, including its intended use.
- Discuss any questions regarding the materials or systems as they arise.



2.4 Lecture: Communication Needs and Communication Systems

When designing and programming communication systems, the individual communication needs of the student who will be using the system should be kept in mind. Present and review the **Communication Needs** handout and transparency (**H6/T5**). Programming and design typically try to consider the following:

- Control of Activity and Material Resources
 - ↳ Communicates hunger and thirst.
 - ↳ Communicates discomfort and pain.
 - ↳ Communicates the need for rest or breaks.
 - ↳ Protests and/or refusals provided, offered, or described via items, activities, or events.
 - ↳ Prevents activity interruptions and interference.
 - ↳ Makes choices when offered alternatives.
 - ↳ Makes spontaneous requests (objects or activities).
 - ↳ Directs the actions of others.
 - ↳ Responds to positive “do” instructions.
 - ↳ Responds to negative “don’t” instructions.
 - ↳ Communicates urgency and need for assistance.
- Social Interactions
 - ↳ Participates in sustained social and leisure activities.
 - ↳ Controls social attention (i.e., initiates and terminates greetings and departures).
 - ↳ Responds within sustained one-on-one conversation.

- ↳ Controls sustained one-on-one conversations.
- ↳ Resumes and/or presents topic(s) from earlier conversations.
- ↳ Clarifies messages.
- ↳ Attends and contributes to small- and large-group interactions.
- Friendship and Belonging
 - ↳ Communicates affection and/or support for others.
 - ↳ Communicates a need to receive affection and/or support from others.
 - ↳ Shares with and includes others in activities.
 - ↳ Emulates the social and attitudinal behaviors of others.
 - ↳ Offers assistance or guidance to others.
 - ↳ Collaborates in conflict resolution with friends, family, and others.
 - ↳ Asserts and/or defends personal options and beliefs with peers.
- Information Acquisition and Use
 - ↳ Gives information about basic facts upon request
 - ↳ Gives information about past, present and future events upon request
 - ↳ Repeats and/or assesses new information
 - ↳ Answers verification questions (often yes/no questions)
 - ↳ Seeks information from others (verification and new information).
 - ↳ Describes a routine sequence associated with familiar activities.
 - ↳ Reports an unusual or interesting sequence or event.
 - ↳ Reconstructs a story or newsworthy historical sequence.



2.5 Lecture: High-Tech Communication Systems

The key and significant reason for a lack of success in using high-tech communication systems is a lack of experience, skill, confidence, expertise, and valuing of the systems on the part of communication partners, not the inability of students.

A high-tech communication center should include the following:

- Environmental control units and various devices for attachment.
- Cause-and-effect switch-operated toys with appropriate adapters.
- Various switches.
- Computers with cause-and-effect software, with switch and mouse access.
- Computers with communication systems, such as touch windows, power pads, and expanded keyboards, like a Unicorn Board or Intellikeys.
- Word prediction software.
- Voice-activated software.

- Dynavox.
- Liberator.
- Communicators with scanning activation.
- Any other systems available and used within the district.

High-tech communication systems fall into various functional categories, which meet the communication needs of students. Present and review the **Functional Categories** handout and transparency (**H7/T6**).

- Interactive Functions

- ↳ Requests:

- ⇒ For attention: behaviors used to call attention to the student (showing off, teasing flirting, etc.).
 - ⇒ For social interaction: behaviors used to initiate a social exchange.
 - ⇒ For play interaction: behaviors that convey a desire on the part of the student to engage in play with another person.
 - ⇒ For affection: behaviors that direct the receiver to engage in some physical activity specifically intended to convey a feeling of fondness.
 - ⇒ For permission to engage in an activity: behaviors that convey a desire on the part of the student to engage in some particular activity (bathroom, recess, lunch, etc.).
 - ⇒ For action by the receiver: behaviors that direct the receiver to cause an event to occur.
 - ⇒ For assistance: behaviors that direct the receiver to provide help.
 - ⇒ For information and/or clarification: behaviors that direct the receiver to provide information or clarification about an object, activity, location, etc.
 - ⇒ For objects: behaviors that direct the receiver to provide an object to the student, other than food.
 - ⇒ For food: behaviors that specifically convey a desire for food or drink.

- ↳ Negations:

- ⇒ Protest: behaviors that express general objection to, or disapproval of, an event, request, etc.
 - ⇒ Refusal: behaviors that specifically express rejection of an event initiated or suggested by another
 - ⇒ Cessation: behaviors that specifically express a desire to terminate an event which has already begun.

- ↳ Declarations and Comments:
 - ⇒ About events and/or actions: behaviors that are used to comment on an event or occurrence.
 - ⇒ About objects and/or person: behaviors used to comment about an object or about a person
 - ⇒ About errors and/or mistakes: behaviors that convey acknowledgment that the student or another person has committed an error.
 - ⇒ Affirmation: behaviors that convey agreement about or willingness to engage in an event or action.
 - ⇒ Greeting: behaviors that occur subsequent to a person's entrance or appearance and express recognition.
 - ⇒ Humor: behaviors that are intended to entertain the receiver and/or evoke a response, such as laughter.
- Non-Interactive Functions
 - ↳ Self regulation: behaviors used for the purpose of monitoring one's own behavior (i.e., self-control, self-correction).
 - ↳ Rehearsal: behaviors used to practice an event that has not yet occurred.
 - ↳ Habitual: behaviors set by regular repetition in a predictable sequence.
 - ↳ Relaxation and Tension Release: behaviors used for the purpose of self-entertainment or to calm oneself.



2.6 Activity: Operating High-Tech Communication Systems

Paraeducators will participate in an activity that provides an opportunity to operate high-tech communication systems.



2.6.1 Steps

- Have a center or multiple centers containing the materials related to high-tech communication systems listed in this module set up.
- Introduce each system to the participants, briefly explaining and demonstrating its use.
- Have the participants break into small groups.
- Instruct each group to take turns operating each of the systems.

Module C Handouts

Module C: Low- and High-Tech Augmentative Communication Systems

1. Explain the conceptual basis behind the use of augmentative communication systems.
2. Recognize, create, and operate low- and high-tech communication systems.

Low- and High-Tech Communication Systems

- Low-tech communication systems are portable systems for individualized communication which utilize objects, pictures or other symbols, have few moving parts, and do not require electricity or battery power. Low-tech communication systems include, but are not limited to:
 - ↳ Communication Rings
 - ↳ Communication Boards
 - ↳ Picture or Symbol Systems
 - ↳ Picture Exchange Systems

- High-tech communication systems are also portable, individualized, and utilize pictures or symbols, but usually also include some form of voice synthesis and take full advantage of the technological advances that are being made. High-tech communication systems usually include products that are complex electric or mechanical devices and include, but are not limited to:
 - ↳ Dynavox
 - ↳ Liberator
 - ↳ Touch Talker
 - ↳ Light Talker

Advantages and Disadvantages of Low-Tech Communication Systems

- Advantages:
 - ↳ Low cost.
 - ↳ Portability.
 - ↳ Flexibility to customize for the individual.
 - ↳ Availability.
 - ↳ Non-reliance on external power sources.
 - ↳ Uses easily replicated materials (objects, pictures, or symbols).
- Disadvantages:
 - ↳ Can be cumbersome.
 - ↳ Often, not immediate.
 - ↳ Can have a crude appearance.
 - ↳ More limited in scope of choices.

Advantages and Disadvantages of High-Tech Communication Systems

- Advantages:
 - ↳ Portable.
 - ↳ Individualized.
 - ↳ Uses pictures or symbols.
 - ↳ Can sound like speech, providing an audible voice for the user.
 - ↳ Sometimes faster.
 - ↳ Can use more advanced and mature speech patterns.
 - ↳ Universal understanding of communication (unlike sign language or the ultimate intent of some picture systems).
 - ↳ Can be updated.
 - ↳ Can share pre-stored vocabulary systems developed by experts in the fields.
 - ↳ Can be set up for users who have very limited motor skills through switches and scanning.
- Disadvantages:
 - ↳ Can be cumbersome.
 - ↳ Requires training for use by individual and support help.
 - ↳ Technology breakdowns.
 - ↳ Ongoing support to maintain and program.
 - ↳ Some who assist may “fear” technology and not encourage use.

Picture Communication Symbols

- Always encourage the student to vocalize while indicating the symbols during communication.
- Color-coding word groups on the permanent aid can be useful.
- Teach the student to access the symbols in many different positions, ensuring he or she knows the symbol by itself and not just because of its the position on an aid.
- For some students, it may be necessary to teach large-sized symbols first and then proceed to small-sized symbols.
- A student should be taught to generalize the meanings of words as often as possible, helping the student communicate more ideas with fewer symbols. For example, the symbol for “bed” may used to indicate bed, sleep, or nap, depending upon the context of the situation.
- Watch for symbol overload. Each student will have a limit to how many symbols he or she can use effectively.
- For some students, teaching may need to be broken down into smaller steps. This may involve using progressively more abstract stimuli starting with concrete objects, then photographs, colored pictures, line drawings, etc. until the student can associate the picture with the word.

Communication Needs

- Control of Activity and Material Resources
 - ↳ Communicates hunger and thirst.
 - ↳ Communicates discomfort and pain.
 - ↳ Communicates the need for rest or breaks.
 - ↳ Protests and/or refusals provided, offered, or described via items, activities, or events.
 - ↳ Prevents activity interruptions and interference.
 - ↳ Makes choices when offered alternatives.
 - ↳ Makes spontaneous requests (objects or activities).
 - ↳ Directs the actions of others.
 - ↳ Responds to positive “do” instructions.
 - ↳ Responds to negative “don’t” instructions.
 - ↳ Communicates urgency and need for assistance.
- Social Interactions
 - ↳ Participates in sustained social and leisure activities.
 - ↳ Controls social attention (i.e., initiates and terminates greetings and departures).
 - ↳ Responds within sustained one-on-one conversation.
 - ↳ Controls sustained one-on-one conversations.
 - ↳ Resumes and/or presents topic(s) from earlier conversations.
 - ↳ Clarifies messages.
 - ↳ Attends and contributes to small- and large-group interactions.
- Friendship and Belonging
 - ↳ Communicates affection and/or support for others.
 - ↳ Communicates a need to receive affection and/or support from others.
 - ↳ Shares with and includes others in activities.
 - ↳ Emulates the social and attitudinal behaviors of others.
 - ↳ Offers assistance or guidance to others.
 - ↳ Collaborates in conflict resolution with friends, family, and others.
 - ↳ Asserts and/or defends personal options and beliefs with peers.

Communication Needs *(continued)*

- Information Acquisition and Use
 - ↳ Gives information about basic facts upon request
 - ↳ Gives information about past, present and future events upon request
 - ↳ Repeats and/or assesses new information
 - ↳ Answers verification questions (often yes/no questions)
 - ↳ Seeks information from others (verification and new information).
 - ↳ Describes a routine sequence associated with familiar activities.
 - ↳ Reports an unusual or interesting sequence or event.
 - ↳ Reconstructs a story or newsworthy historical sequence.

Functional Categories

- Interactive Functions

- ↳ Requests:

- ⇒ For attention: behaviors used to call attention to the student (showing off, teasing flirting, etc.).
 - ⇒ For social interaction: behaviors used to initiate a social exchange.
 - ⇒ For play interaction: behaviors that convey a desire on the part of the student to engage in play with another person.
 - ⇒ For affection: behaviors that direct the receiver to engage in some physical activity specifically intended to convey a feeling of fondness.
 - ⇒ For permission to engage in an activity: behaviors that convey a desire on the part of the student to engage in some particular activity (bathroom, recess, lunch, etc.).
 - ⇒ For action by the receiver: behaviors that direct the receiver to cause an event to occur.
 - ⇒ For assistance: behaviors that direct the receiver to provide help.
 - ⇒ For information and/or clarification: behaviors that direct the receiver to provide information or clarification about an object, activity, location, etc.
 - ⇒ For objects: behaviors that direct the receiver to provide an object to the student, other than food.
 - ⇒ For food: behaviors that specifically convey a desire for food or drink.

- ↳ Negations:

- ⇒ Protest: behaviors that express general objection to, or disapproval of, an event, request, etc.
 - ⇒ Refusal: behaviors that specifically express rejection of an event initiated or suggested by another
 - ⇒ Cessation: behaviors that specifically express a desire to terminate an event which has already begun.

Functional Categories

(continued)

- ↳ Declarations and Comments:
 - ⇒ About events and/or actions: behaviors that are used to comment on an event or occurrence.
 - ⇒ About objects and/or person: behaviors used to comment about an object or about a person
 - ⇒ About errors and/or mistakes: behaviors that convey acknowledgment that the student or another person has committed an error.
 - ⇒ Affirmation: behaviors that convey agreement about or willingness to engage in an event or action.
 - ⇒ Greeting: behaviors that occur subsequent to a person's entrance or appearance and express recognition.
 - ⇒ Humor: behaviors that are intended to entertain the receiver and/or evoke a response, such as laughter.
- Non-Interactive Functions
 - ↳ Self regulation: behaviors used for the purpose of monitoring one's own behavior (i.e., self-control, self-correction).
 - ↳ Rehearsal: behaviors used to practice an event that has not yet occurred.
 - ↳ Habitual: behaviors set by regular repetition in a predictable sequence.
 - ↳ Relaxation and Tension Release: behaviors used for the purpose of self-entertainment or to calm oneself.

Module C Transparencies

Module C: Low- and High-Tech Augmentative Communication Systems

SgCommC-T1



- ***Explain the conceptual basis behind the use of augmentative communication systems.***
- ***Recognize, create, and operate low- and high-tech communication systems.***

The Purpose of Augmentative and Alternative Communication Systems...

SgCommC-T2



Is to provide the user with a method of choice-making and interaction that their lack of traditional communicative ability has not allowed.

Advantages and Disadvantages of Low-Tech Communication Systems

SgComm-T3



Advantages:

- *Low cost.*
- *Portability.*
- *Flexibility to customize for the individual.*
- *Availability.*
- *Non-reliance on external power sources.*
- *Uses easily replicated materials.*

Disadvantages:

- *Can be cumbersome.*
- *Often, not immediate.*
- *Can have a crude appearance.*
- *More limited in scope of choices.*

Advantages and Disadvantages of High-Tech Communication Systems

SgCommC-T4



Advantages:

- *Portable.*
- *Individualized.*
- *Uses pictures or symbols.*
- *Can sound like speech, providing an audible voice for the user.*
- *Sometimes faster.*
- *Can use more advanced and mature speech patterns.*
- *Universal understanding of communication.*
- *Can be updated.*
- *Can share pre-stored vocabulary systems developed by experts in the fields.*
- *Can be set up for users who have very limited motor skills through switches and scanning.*

Advantages and Disadvantages of High-Tech Communication Systems

(continued)

SgCommC-T4



Disadvantages:

- *Can be cumbersome.*
- *Requires training for use by individual and support help.*
- *Technology breakdowns.*
- *Ongoing support to maintain and program.*
- *Some who assist may “fear” technology and not encourage use.*

Communication Needs

SgCommC-T5



- *Control of Activity and Material Resources*
- *Social Interactions*
- *Friendship and Belonging*
- *Information Acquisition and Use*

Functional Categories

SgCommC-T6



- *Interactive Functions*
 - ↳ *Requests*
 - ↳ *Negations*
 - ↳ *Declarations and Comments*
- *Non-Interactive Functions*